



APPROVED O.G. FIG.	CLASS	SUBCLASS
BY		
DATE		

RECONSTRUCTED AND RENDERED IMAGE

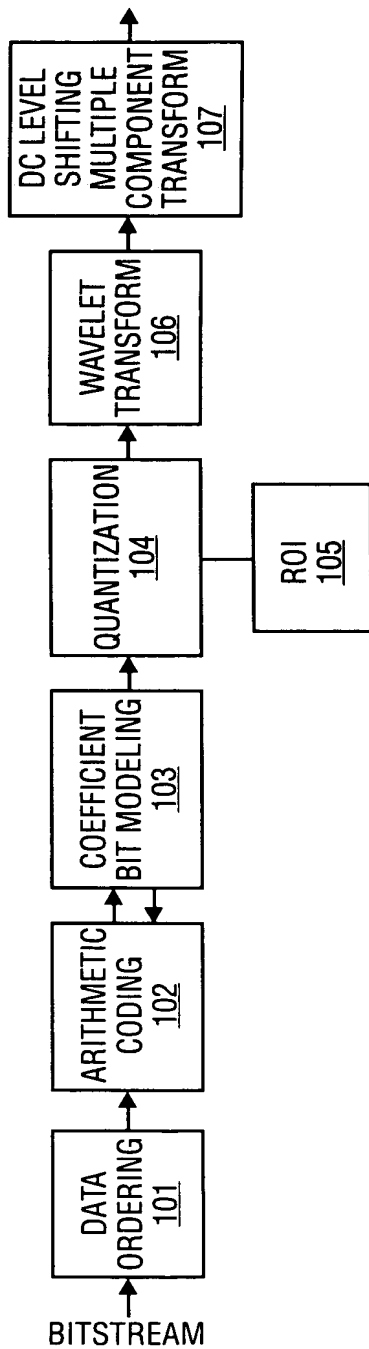
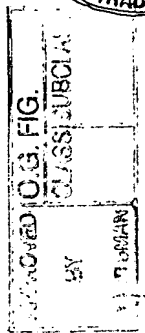


FIG. 1



SP 0	SP 4	C 8	C 12	C 16	C 20	C 24	C 28
R 1	SP 5	C 9	C 13	C 17	C 21	C 25	C 29
R 2	SP 6	SP 10	SP 14	SP 18	C 22	C 26	C 30
SP 3	SP 7	R 11	R 15	SP 19	C 23	C 27	C 31
C 32	SP 36	SP 40	SP 44	SP 48	C 52	C 56	C 60
C 33	C 37	C 41	C 45	C 49	C 53	C 57	C 61
C 34	C 38	C 42	C 46	C 50	C 54	C 58	C 62
C 25	C 39	C 43	C 47	C 51	C 55	C 59	C 63

FIG. 2A

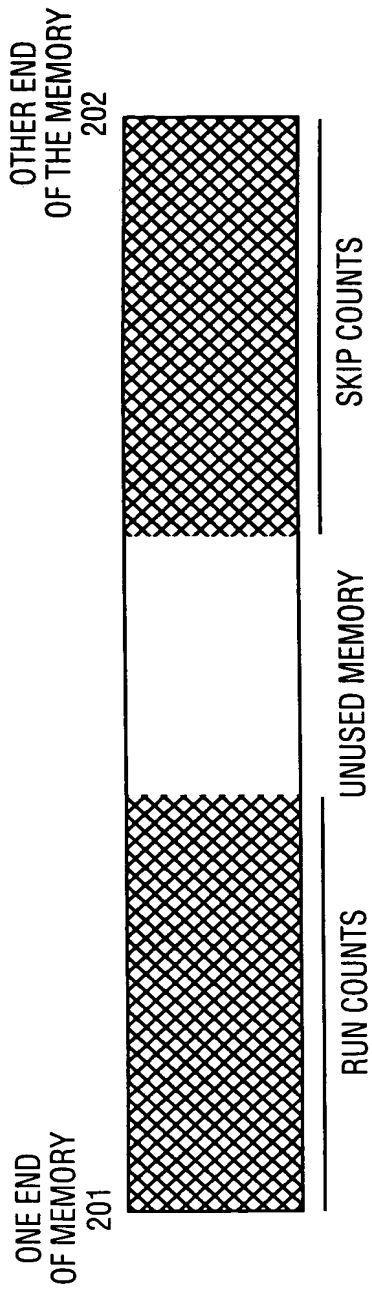


FIG. 2B

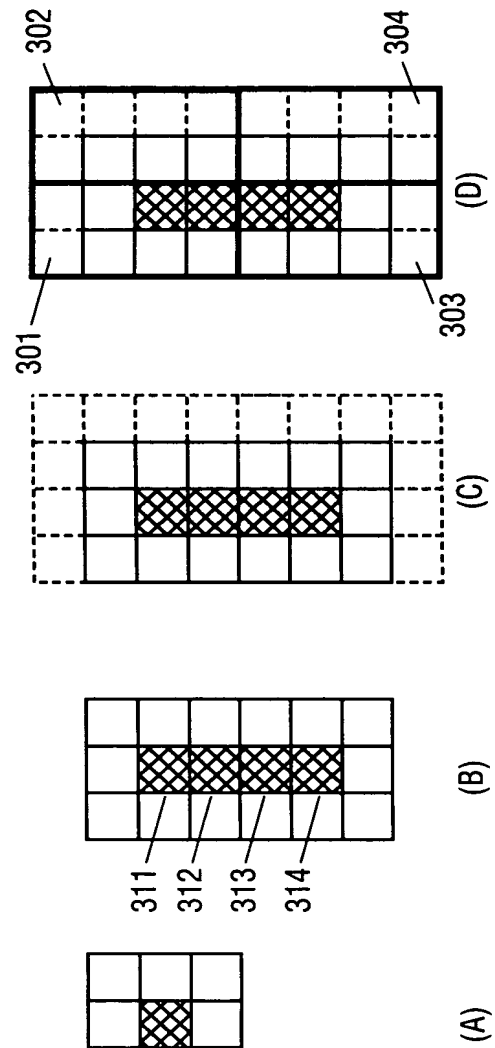


FIG. 3

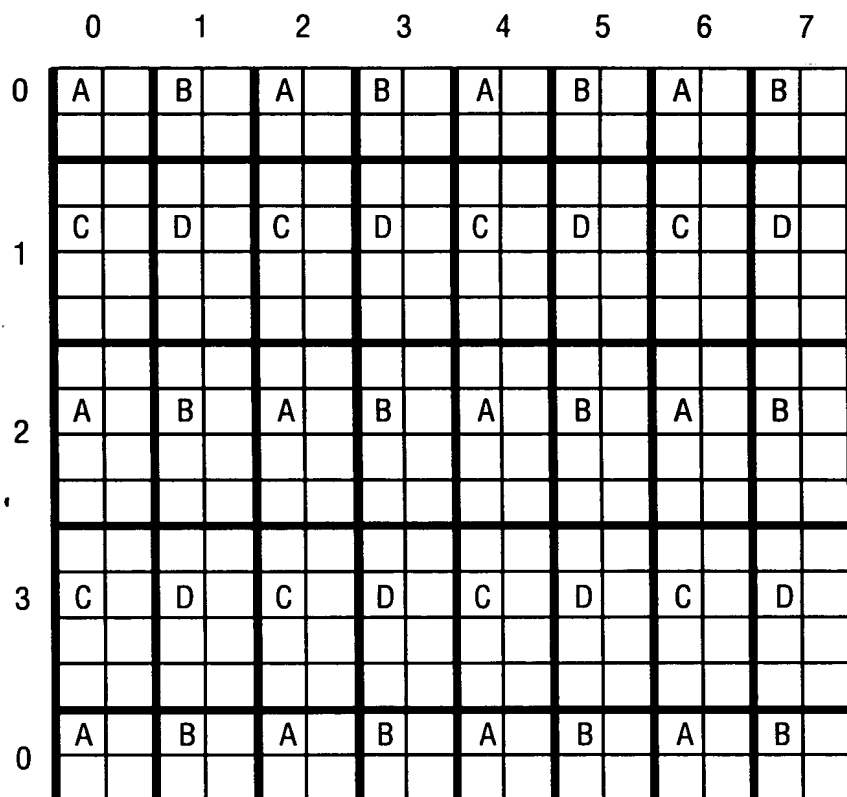
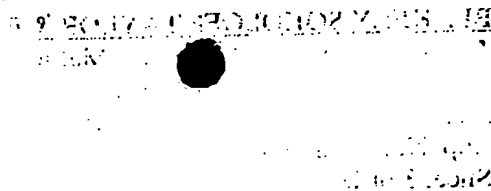


FIG. 4

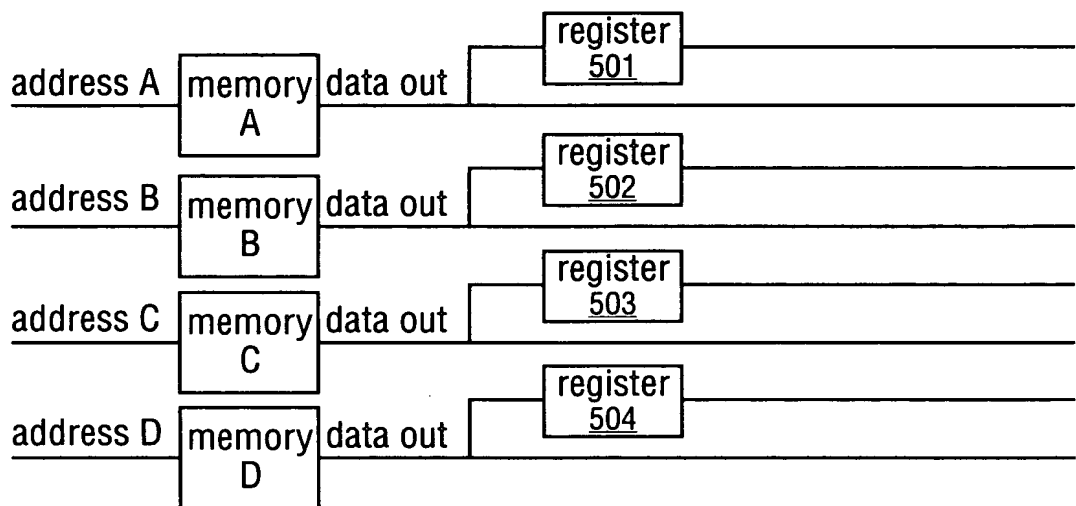
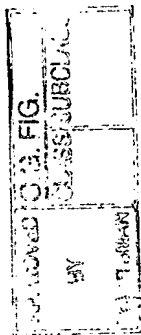


FIG. 5

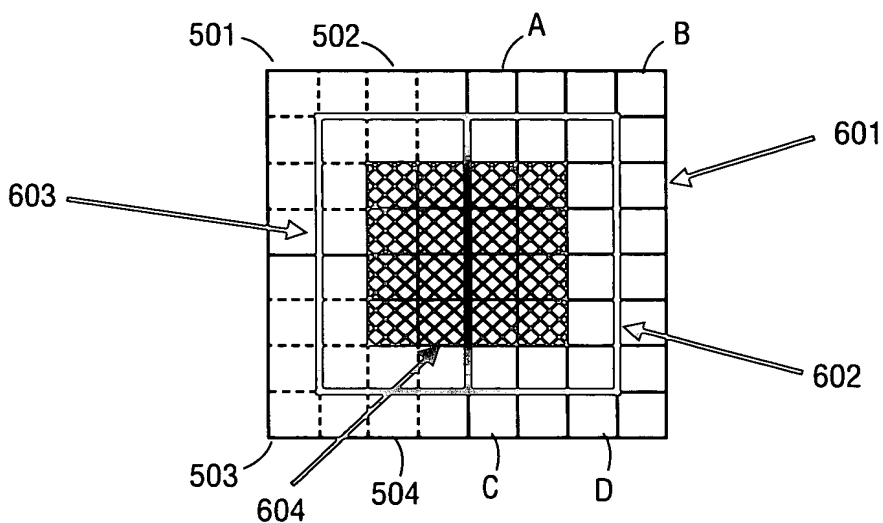


FIG. 6

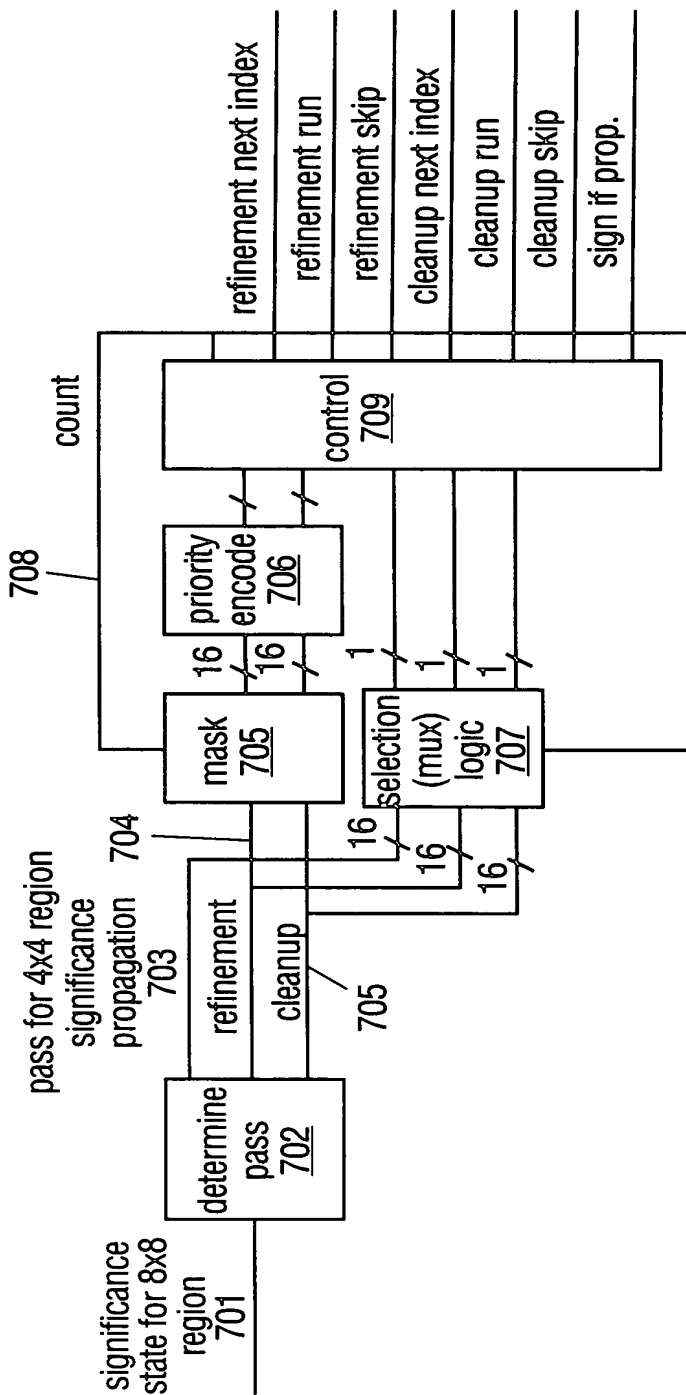
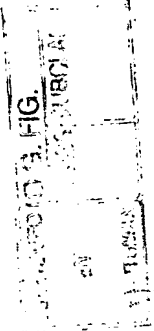


FIG. 7

SP	SP	SP	SP
C	C	C	C
SP	SP	SP	SP
SP	R	R	SP

SP = significance propagation
C = cleanup
R = refinement

SP pass: 10*2 for SP pass coefficients
6 for C and R pass coefficients
C pass: 4*2 for C pass coefficients
R pass: 2 for R pass

total: 36 clocks = 2.25 clocks per coefficient

FIG. 8



U.S. PATENT OFFICE
WASHINGTON, D.C. 20540
JAN 26 1972

	0	1	2	3																																
0	<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A							<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A							<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A							<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A						
	A																																			
	A																																			
	A																																			
	A																																			
1	<table><tr><td></td><td>B</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		B							<table><tr><td></td><td>B</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		B							<table><tr><td></td><td>B</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		B							<table><tr><td></td><td>B</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		B						
	B																																			
	B																																			
	B																																			
	B																																			
2	<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A							<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A							<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A							<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A						
	A																																			
	A																																			
	A																																			
	A																																			
3	<table><tr><td></td><td>B</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		B							<table><tr><td></td><td>B</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		B							<table><tr><td></td><td>B</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		B							<table><tr><td></td><td>B</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		B						
	B																																			
	B																																			
	B																																			
	B																																			
0	<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A							<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A							<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A							<table><tr><td></td><td>A</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		A						
	A																																			
	A																																			
	A																																			
	A																																			

FIG. 9

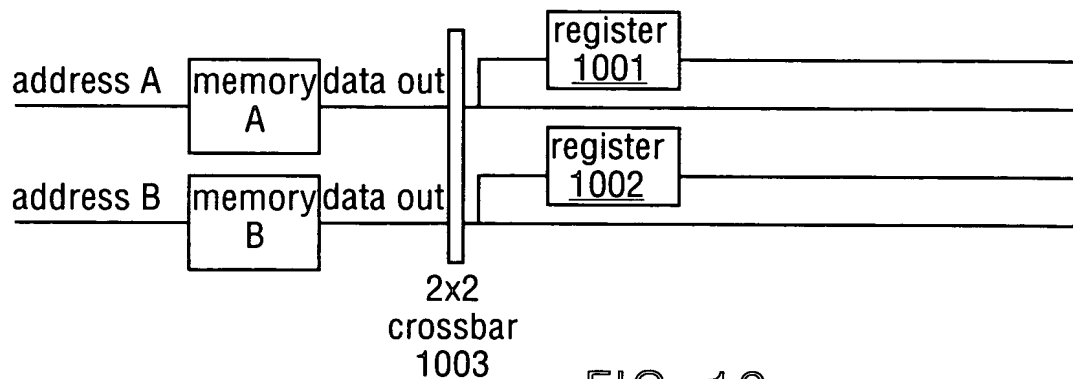


FIG. 10

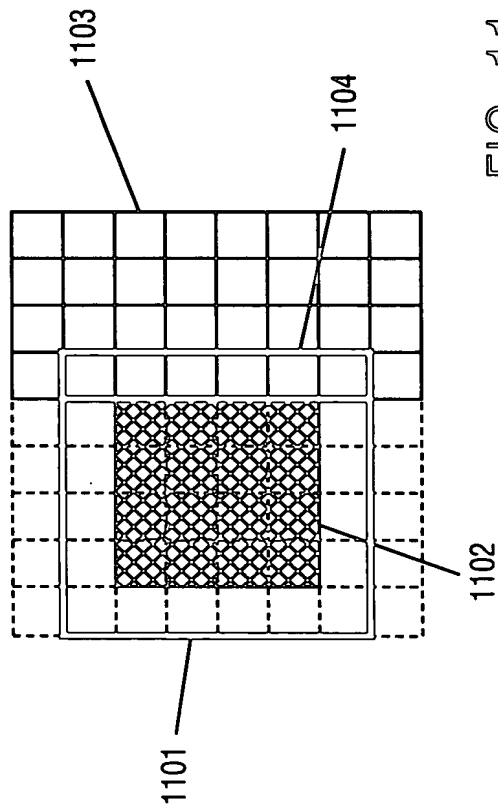


FIG. 11

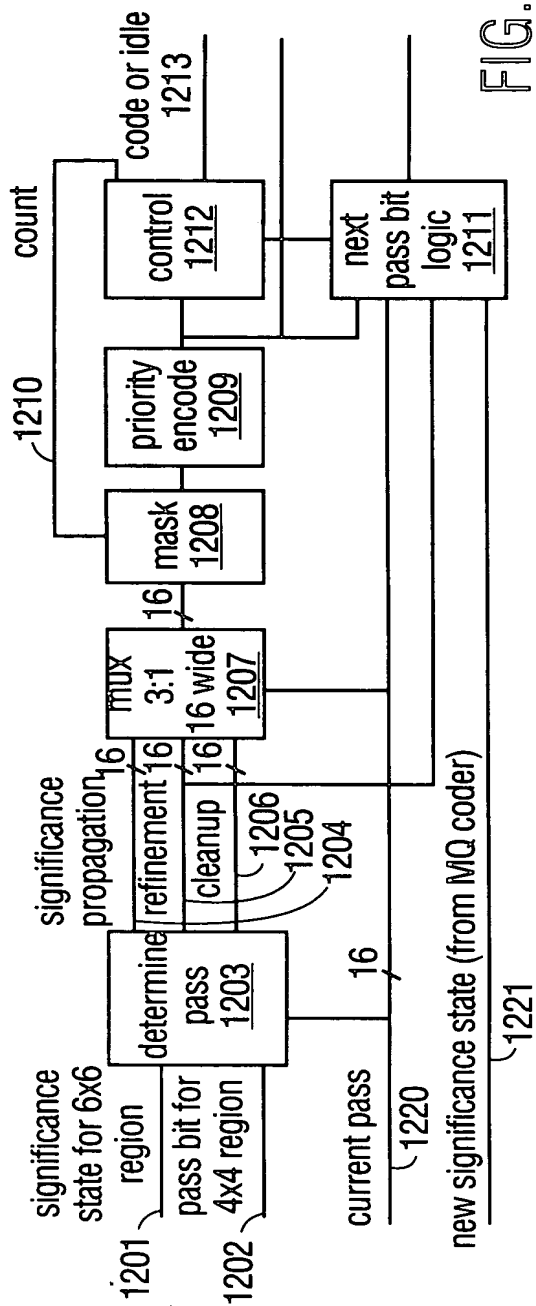


FIG. 12



BRITISH TELECOMMUNICATIONS PATENT & TRADEMARK OFFICE

FIG. 13

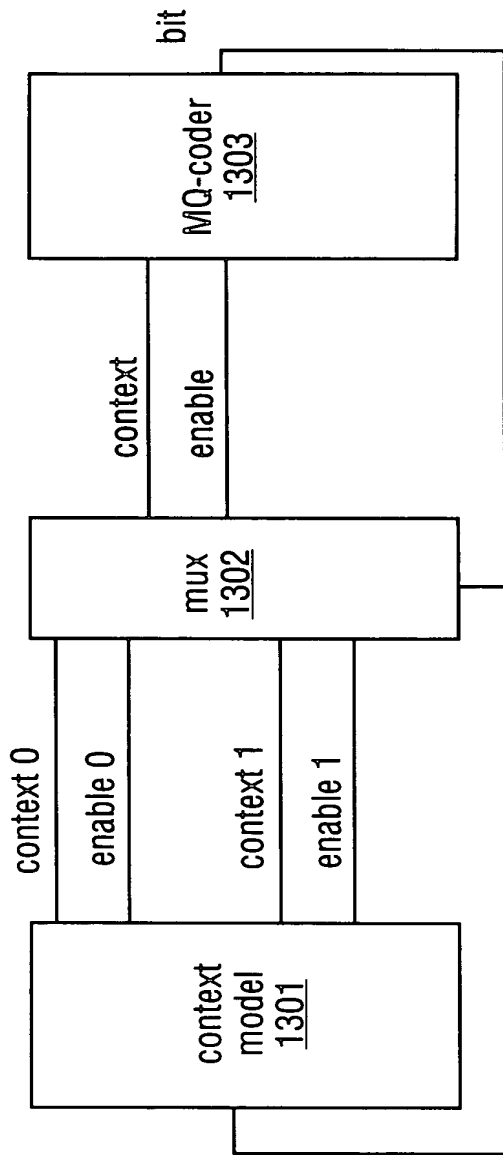


FIG. 13

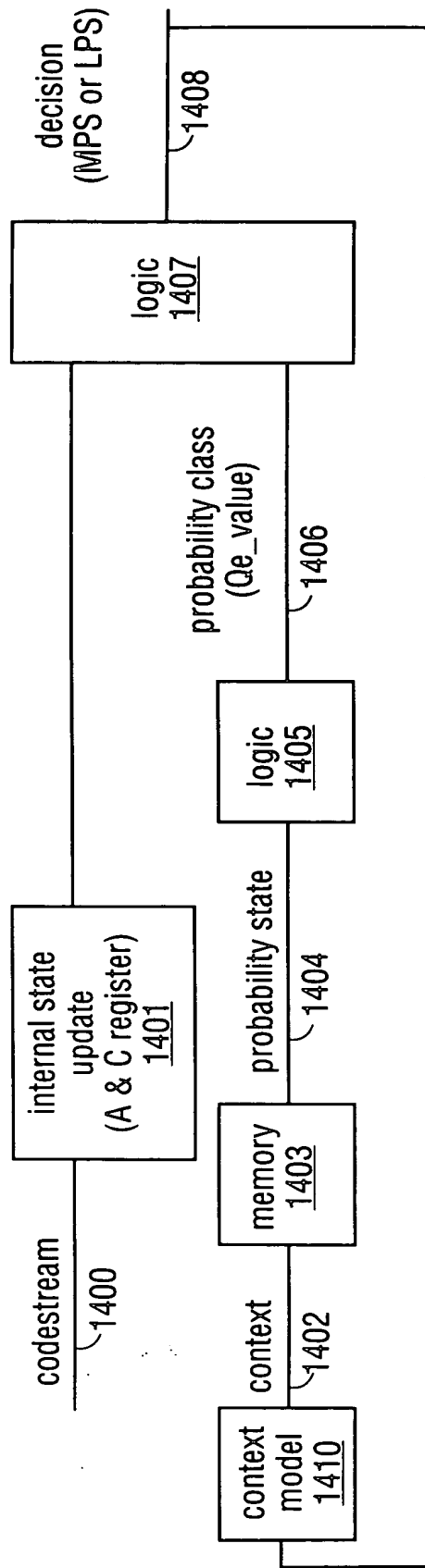


FIG. 14A

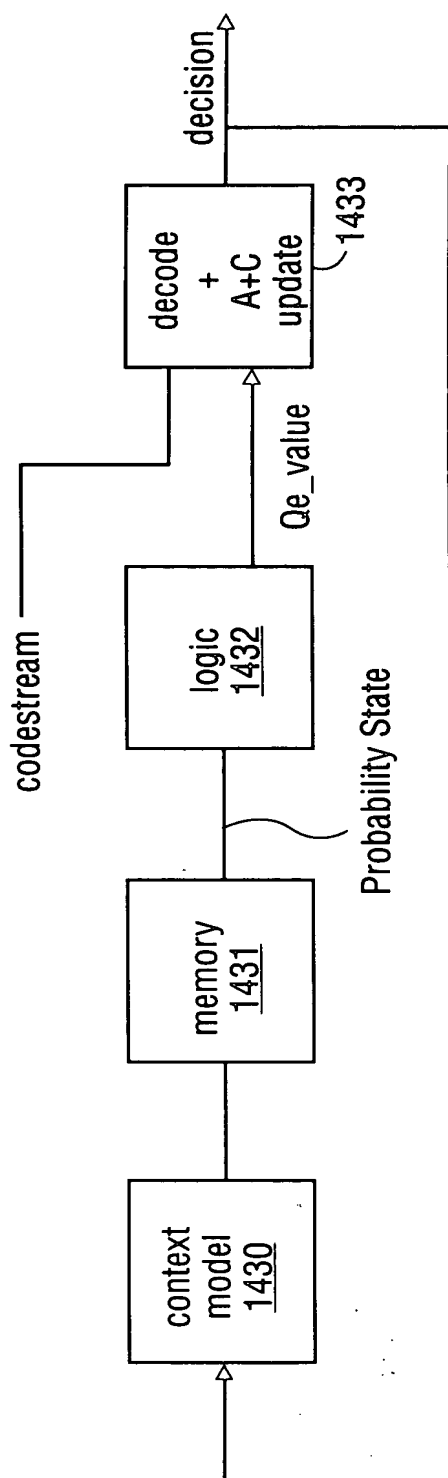
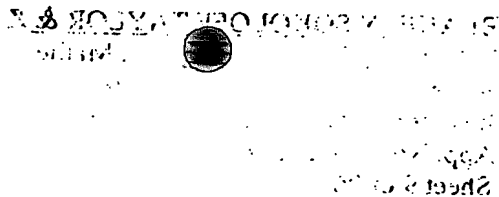
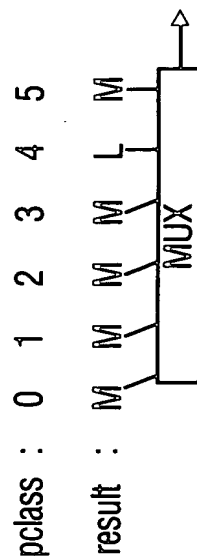
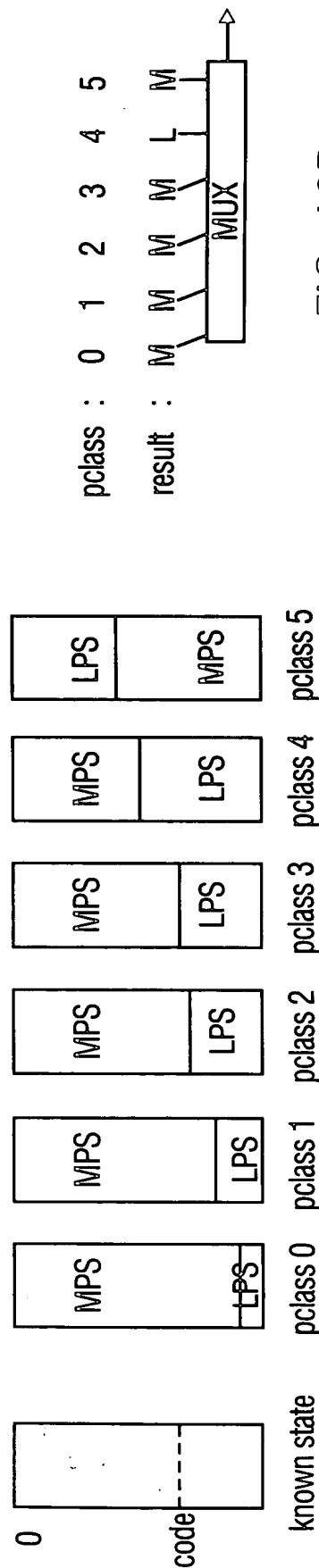
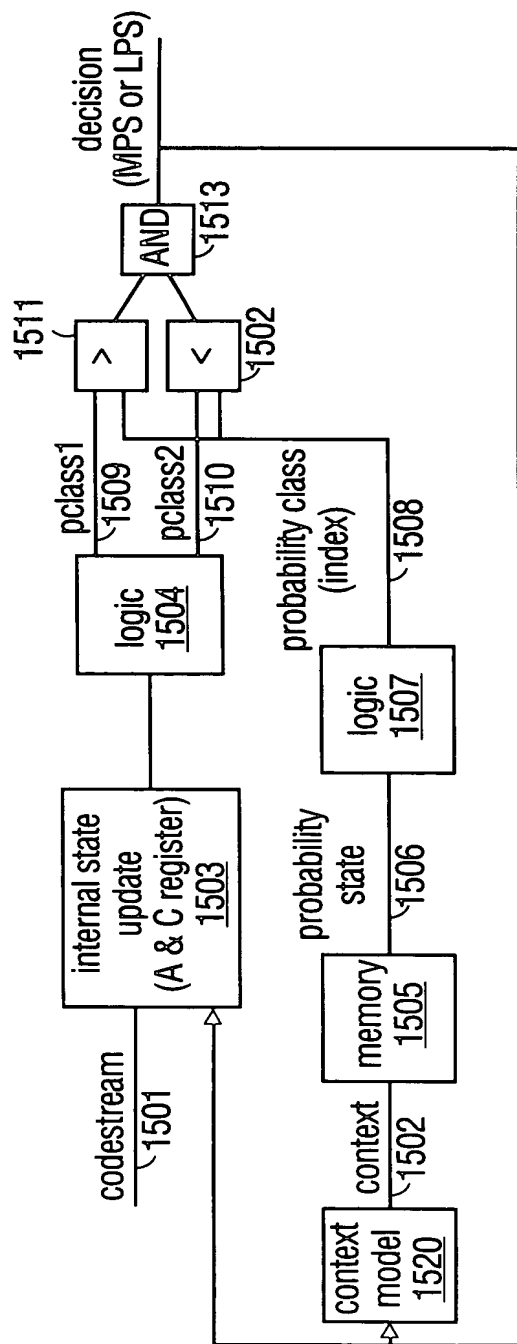
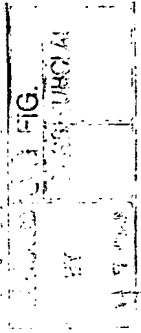


FIG. 14B





5MPS
4 MPS
3 MPS
2 MPS
1 MPS
LPS

FIG. 17



NO. 30,17 AT 10,402 Y 187,16
2002 12 15



luminance

A	A	A	D
A	A		
A		A	
A		A	

chrominance

B	B	B	D
B	B		
B		B	
B		B	

chrominance

C	C	C	D
C	C		
C	C	C	
C		C	C

(A)

A	A	A	B
A	A		
A		A	
B		A	

C	C	C	D
C	C		
C		C	
D		C	

E	E	E	F
E	E		
E		E	
F		E	

(B)

F	F	B	C
F	F		
A		A	
A			B

G	G	C	F
G	G		
B		C	
D			H

E	E	E	E
E	E		
D		D	
G		H	

(C)

FIG. 18



luminance

A	A	A	B
A	A		
A		A	
B		A	

chrominance

C	C	C	
C	C		
C		C	
C			

chrominance

D	D	D	
D	D		
D		D	
D			

(A)

F	F	F	C
A	A		
F		F	
A		B	

B	B	C	
C	C		
A		B	
D			

D	D	F	
E	E		
D		E	
E			

(B)

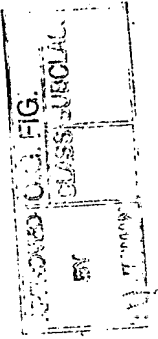
A	A	A	C
A	A		
A		A	
B		D	

E	E	E	
E	E		
E		E	
F			

G	G	G	
G	G		
G		G	
H			

(C)

FIG. 19



luminance

A	A	D	C
A	A		
D		A	B
A			

chrominance

B	B	D	
B	B		
D		B	

chrominance

C	C	D	
C	C		
D		C	

(A)

A	A	A	C
A	A		
A		A	
B			D

E	E	E	
E	E		
E		E	

F	F	F	
F	F		
F		F	

(B)

A	A	H	E
A	A		
B		A	D
C			

F	F	H	
F	F		
B		F	

G	G	H	
G	G		
B		G	

(C)

FIG. 20



FIG. 21

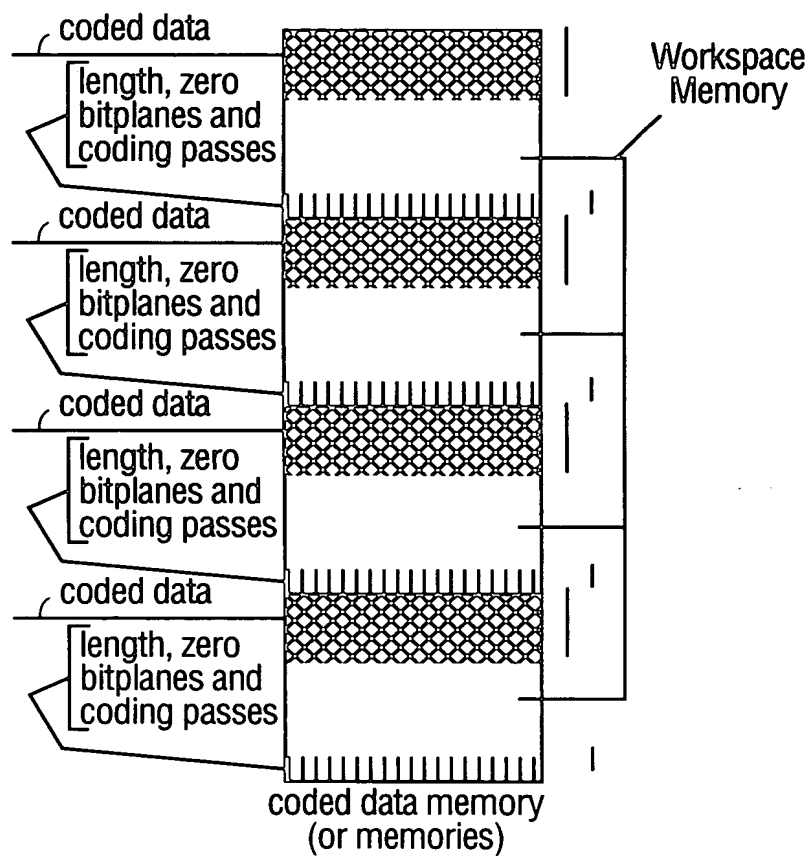
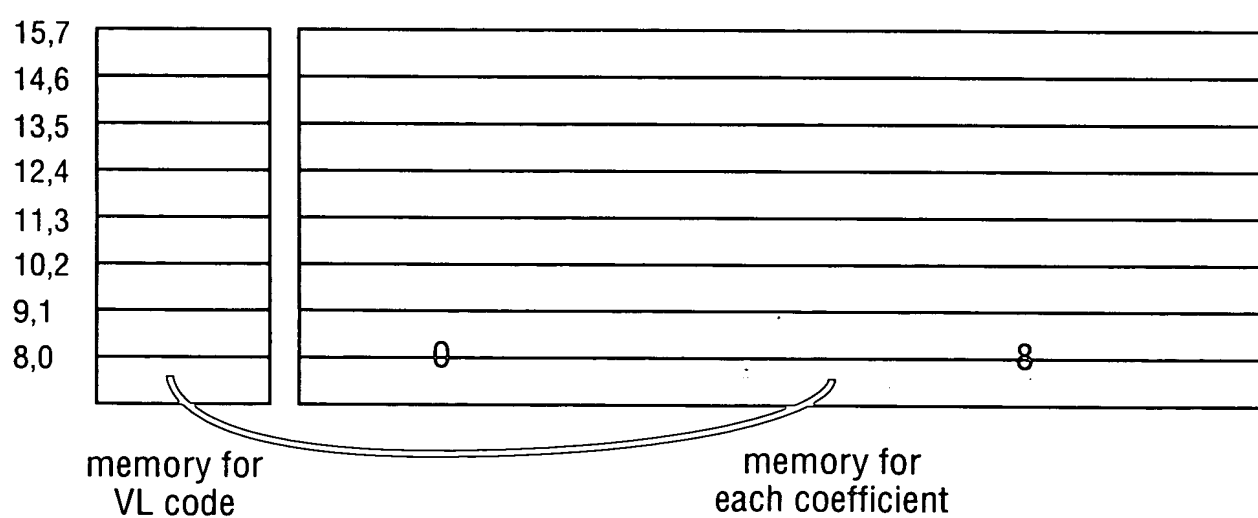
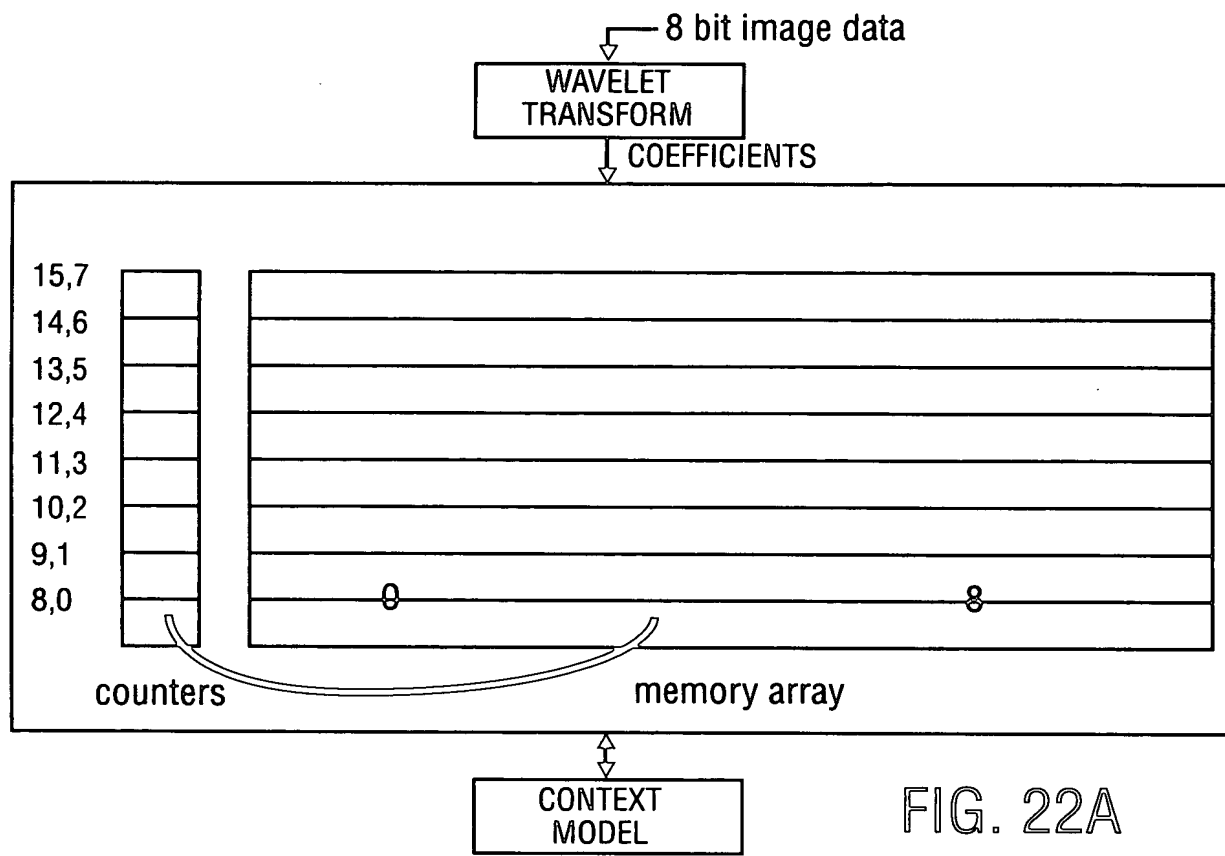


FIG. 21



U.S. PATENT & TRADEMARK OFFICE
WASHINGTON, D.C. 20530
AUG 26 2002

APPROVED FOR PUBLICATION
AUG 26 2002
U.S. PATENT & TRADEMARK OFFICE



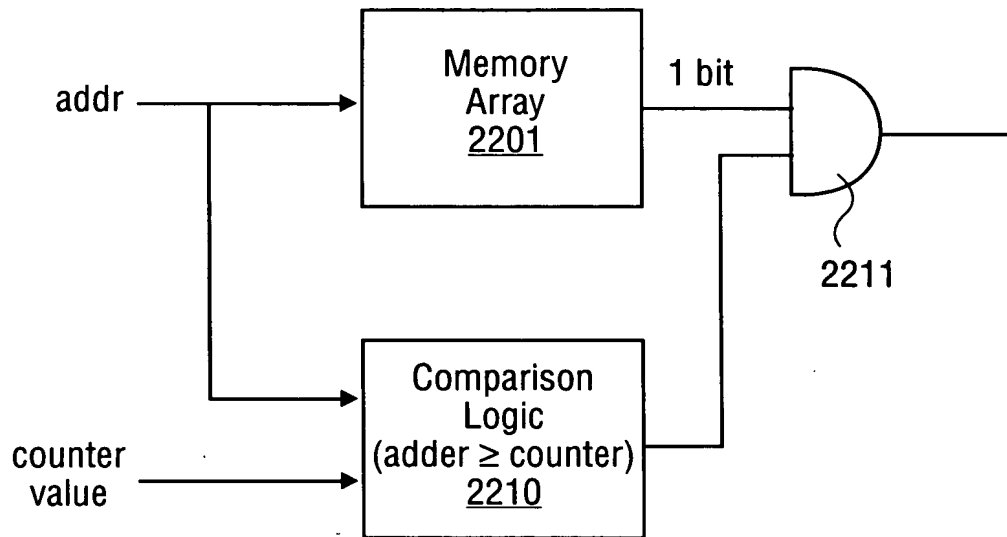


FIG. 22B



To Next Level

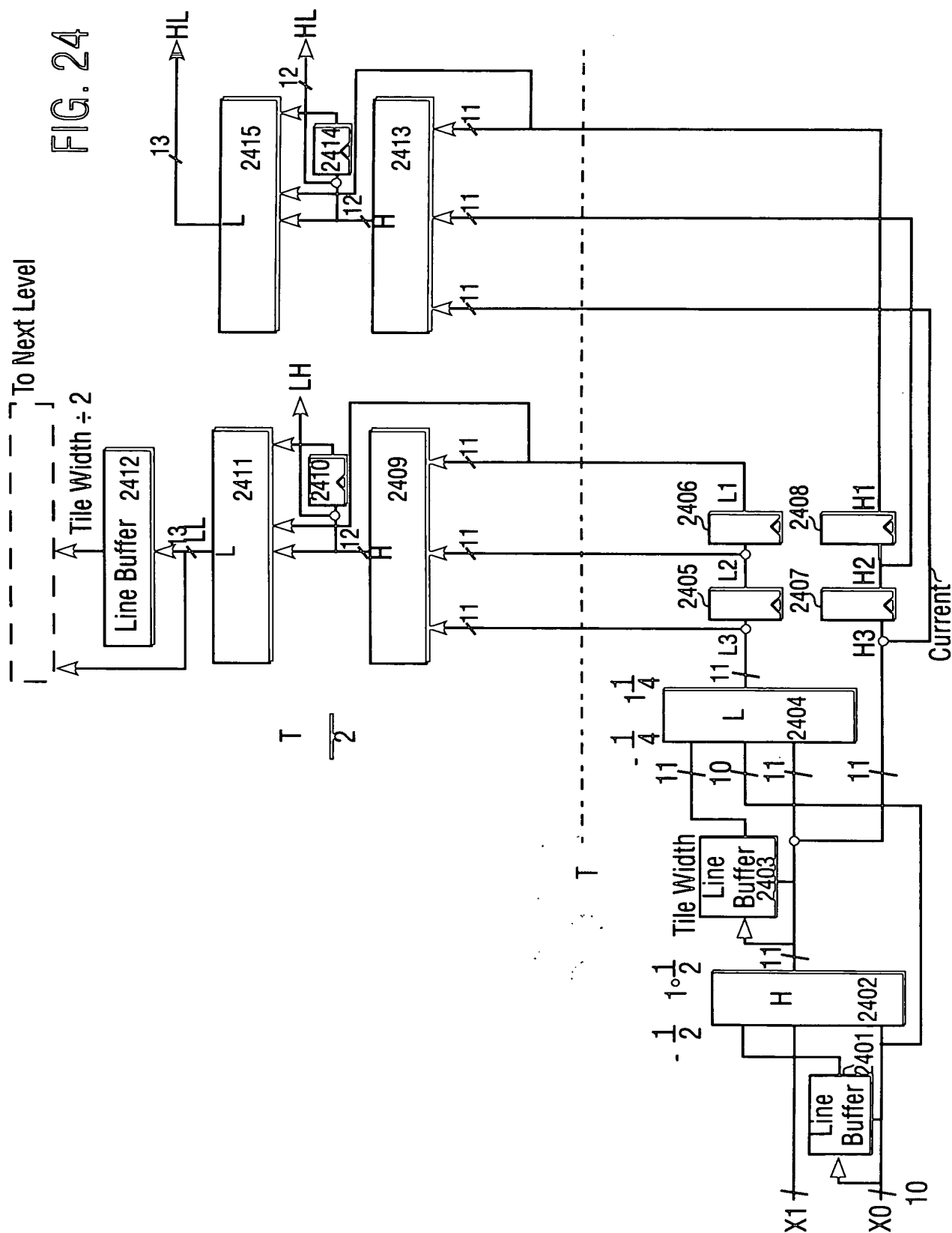
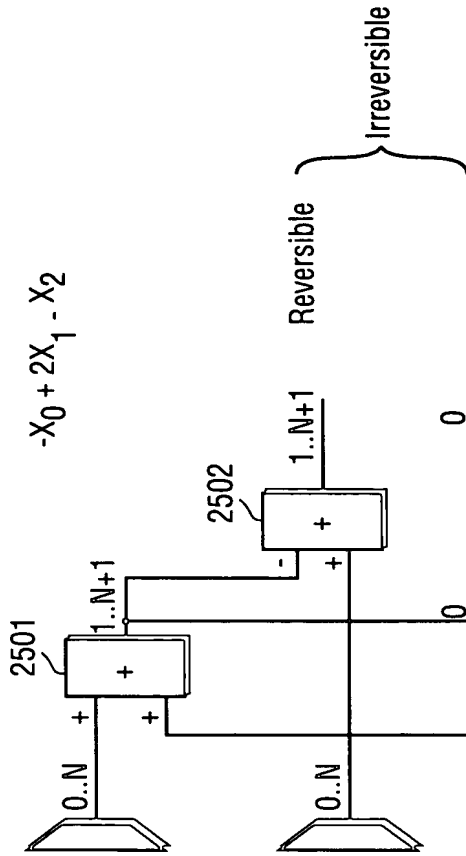




FIG. 25A



$$X_0 + 4X_1 + X_2$$

$$X_1 - \left[\frac{X_0 + X_2 + 2}{4} \right]$$

$$4X_1 - X_0 + X_2$$

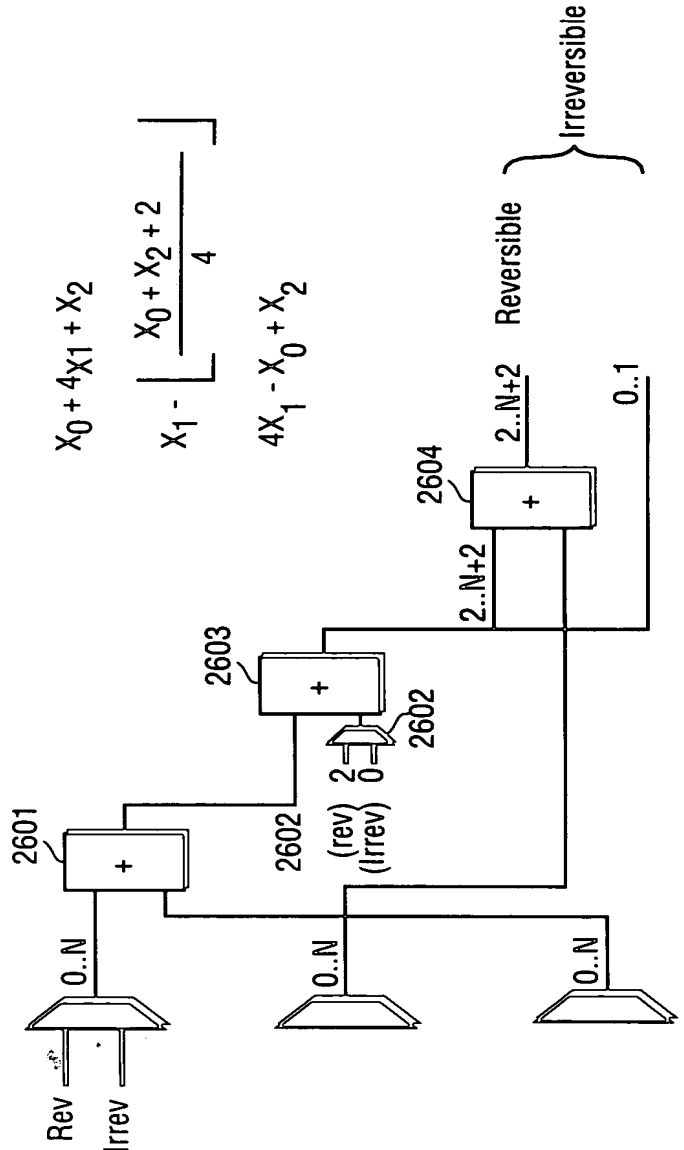


FIG. 26A



2012/02/26 15:00:00
 2012/02/26 15:00:00
 2012/02/26 15:00:00

FIG. 25B

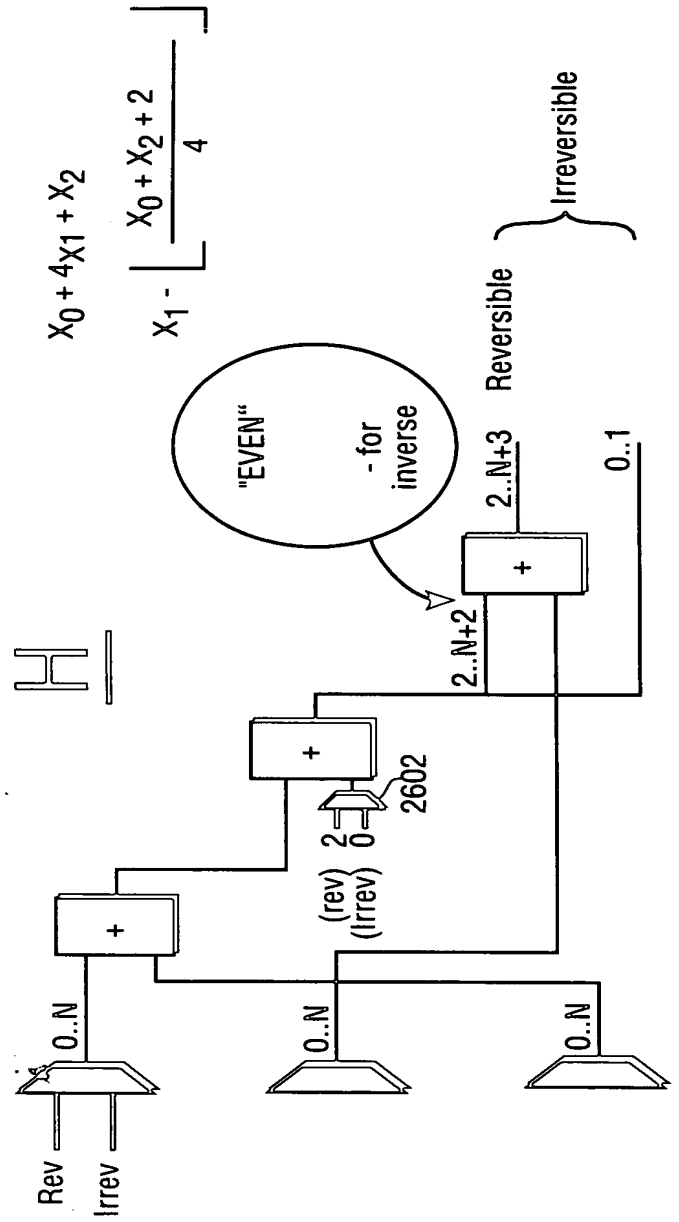
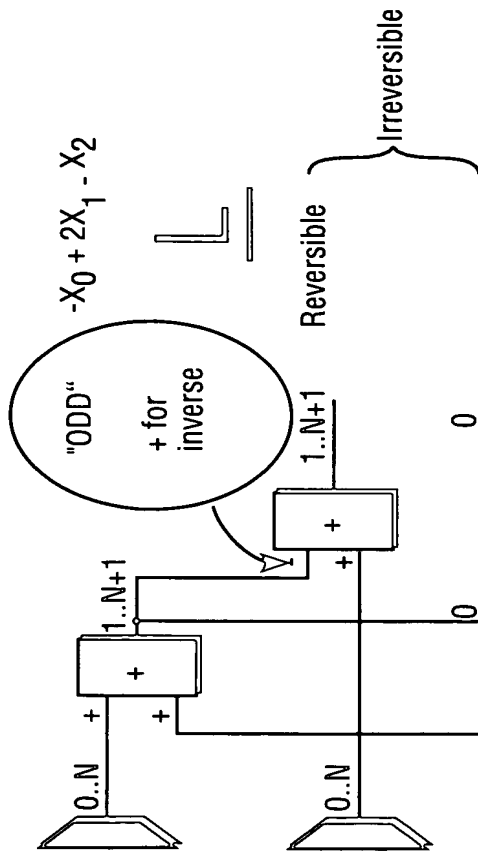


FIG. 26B

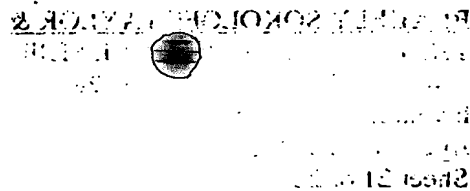
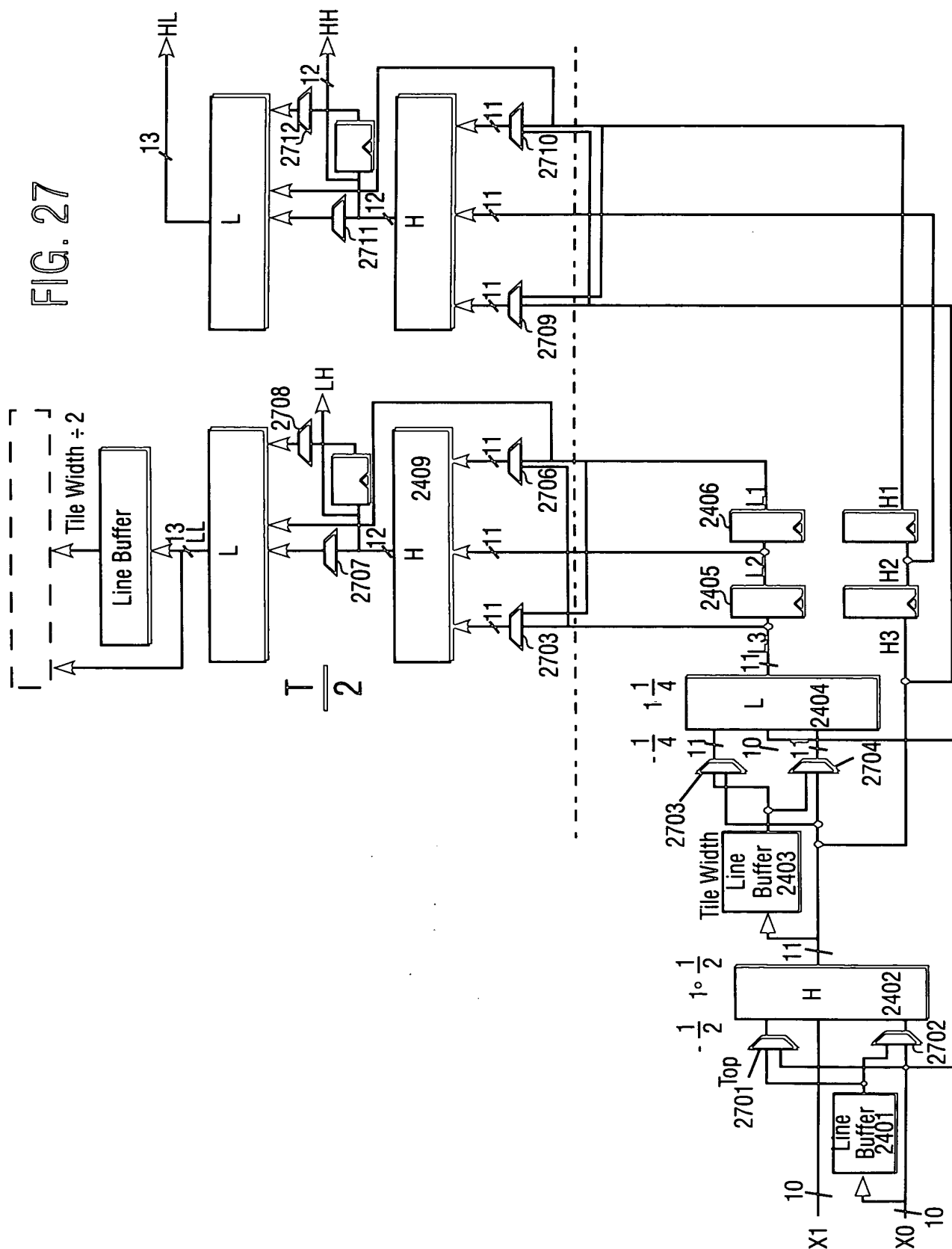
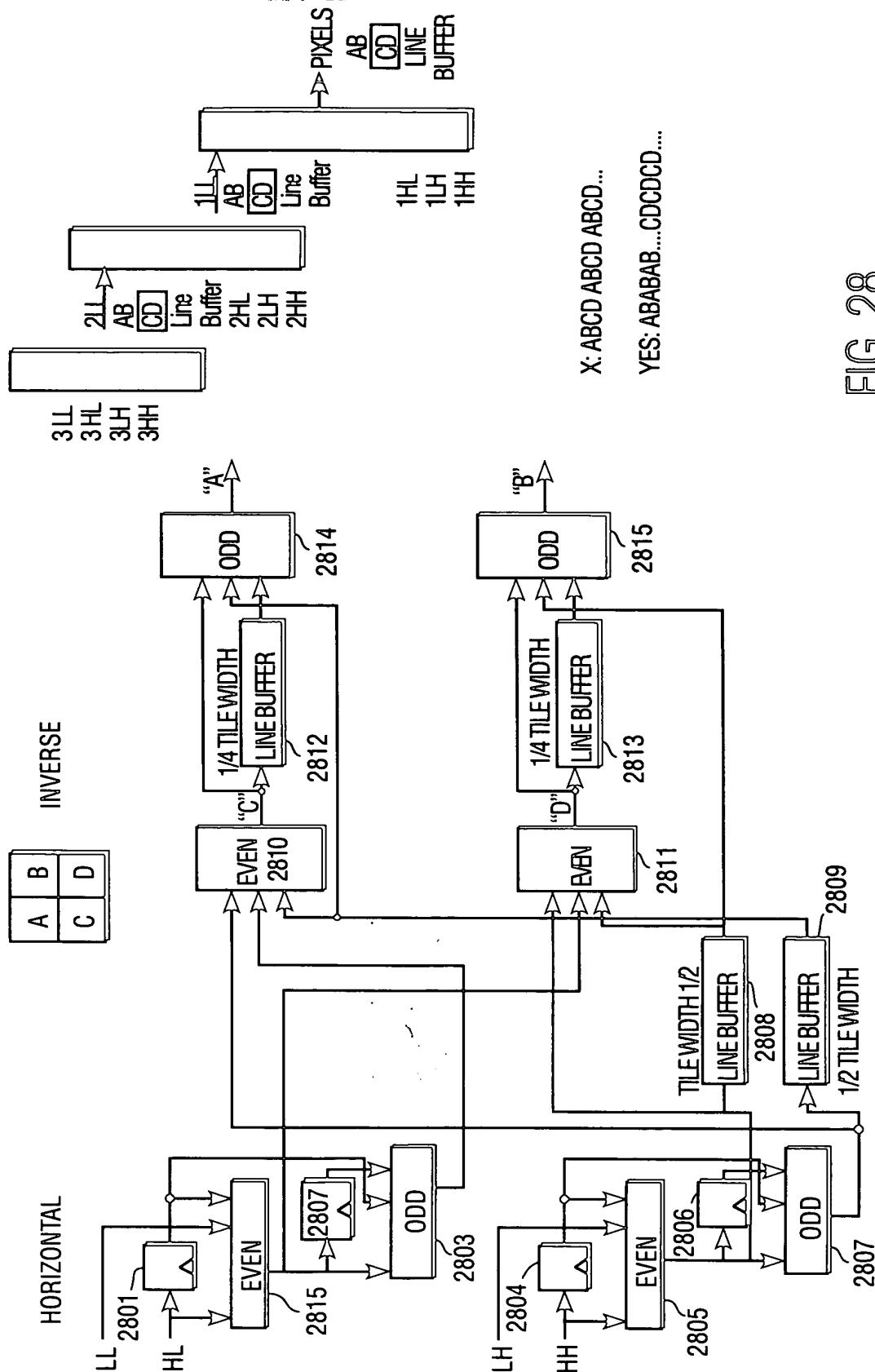


Fig.



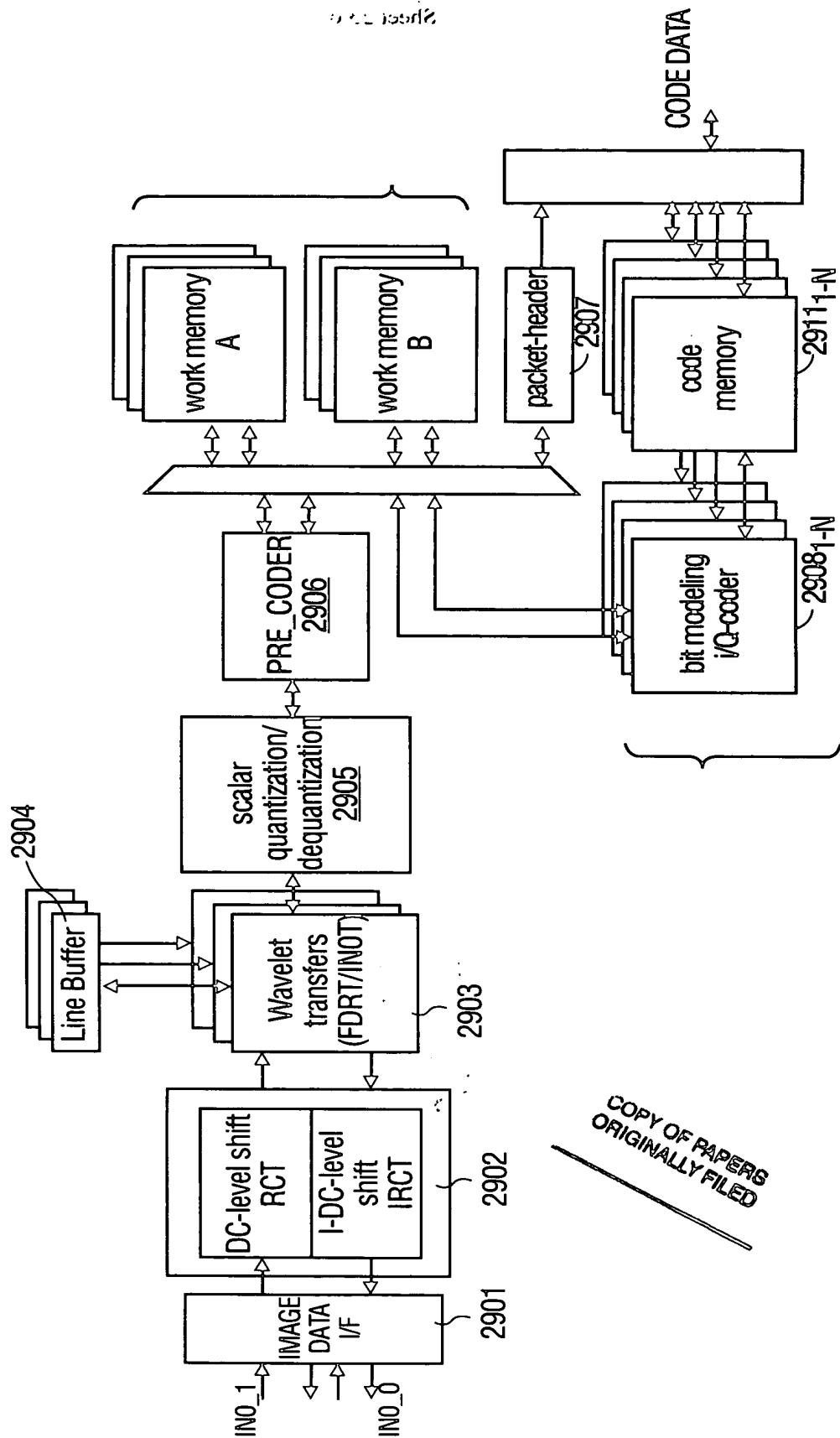


2002/00120000 A

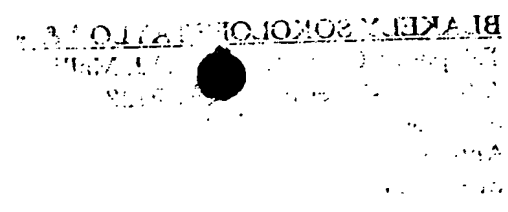


X: ABCD ABCD ABCD...
YES: ABABAB...CDCDCD....

FIG. 28



**COPY OF PAPERS
ORIGINALLY FILED**



8x8 region

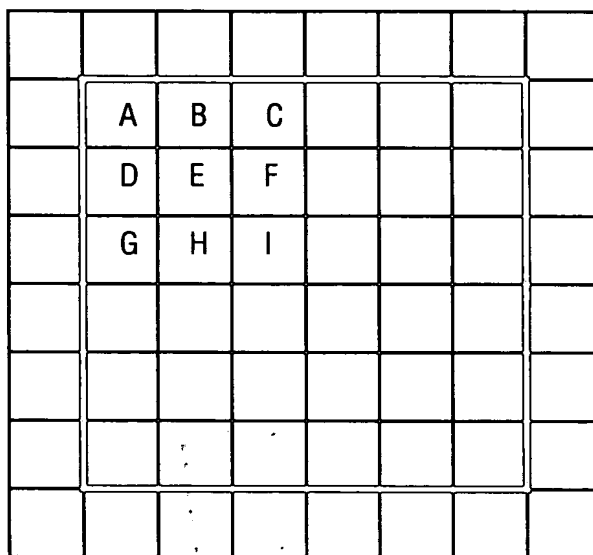


FIG. 31

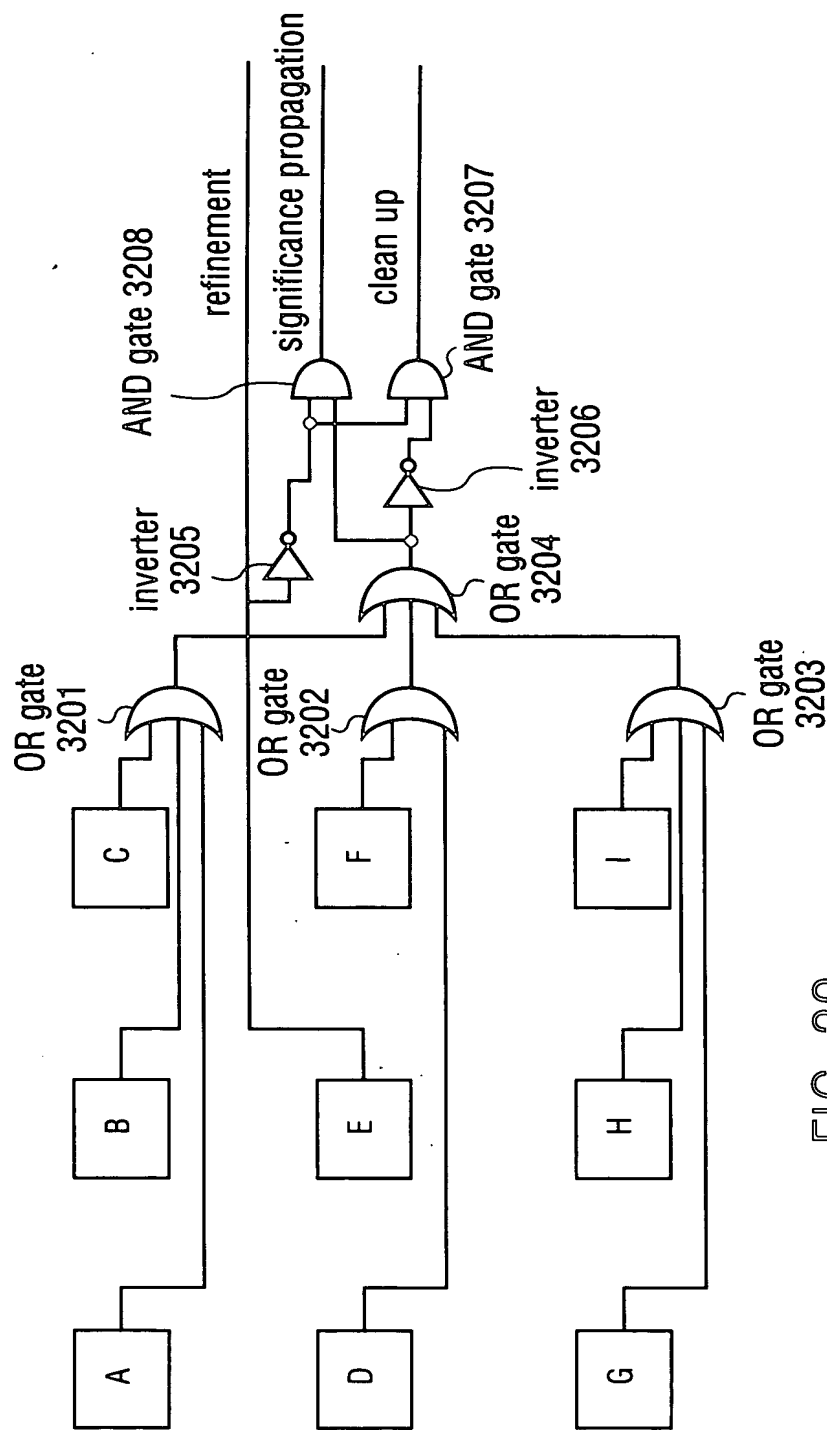


FIG. 32